

August 8

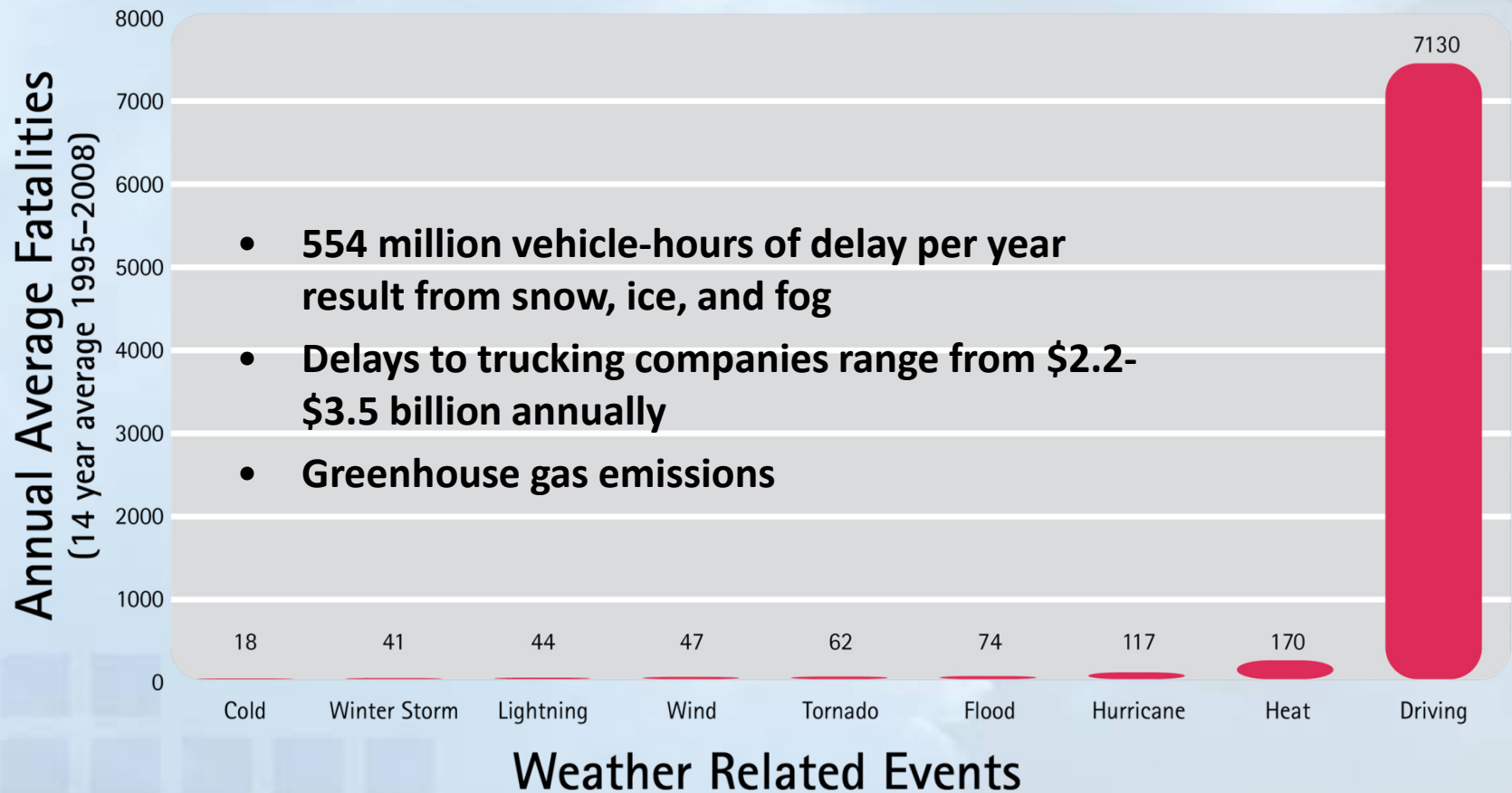
The Vehicle Data Translator

Sheldon Drobot

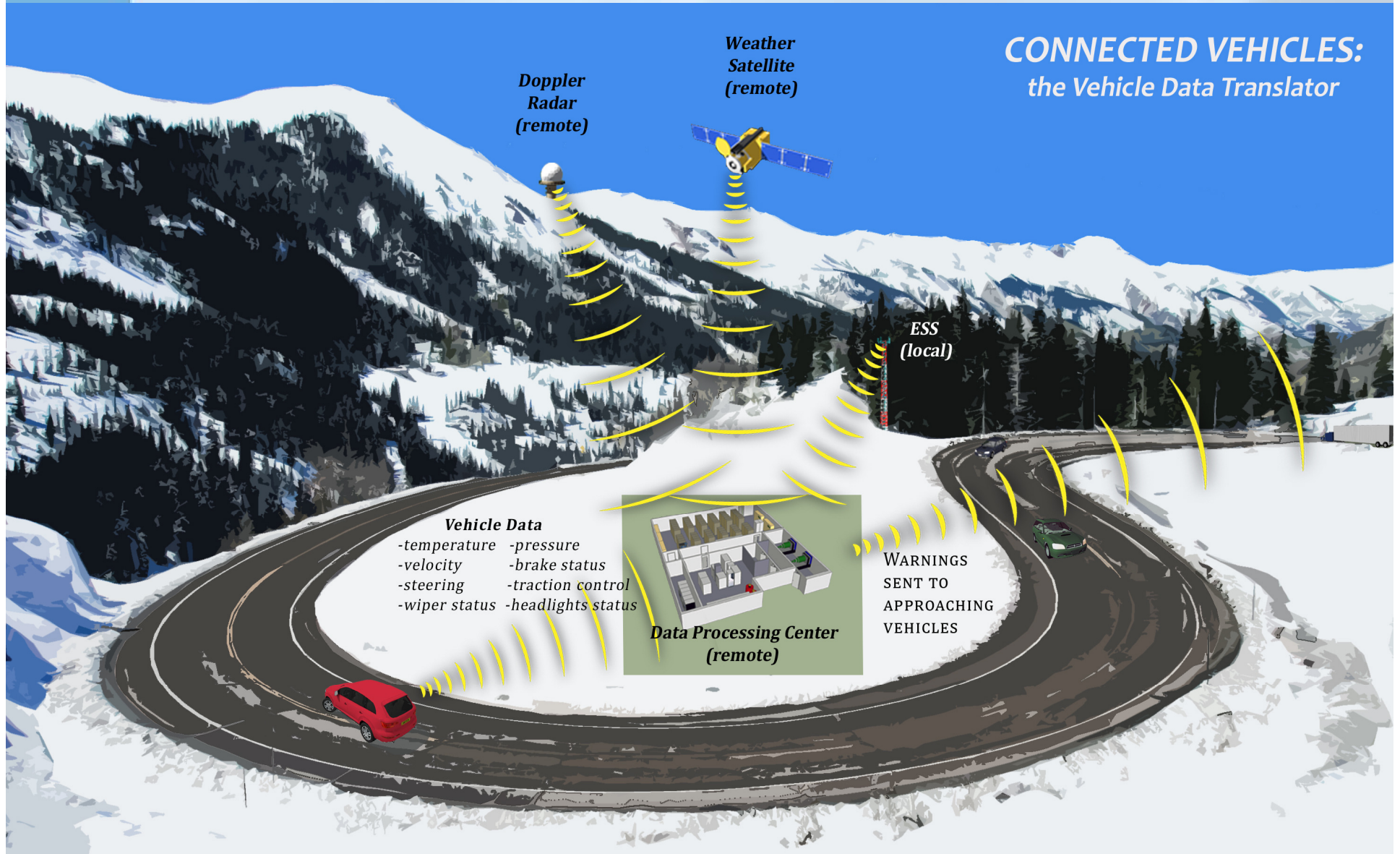
NCAR



Why the need?



The concept



Sample input data

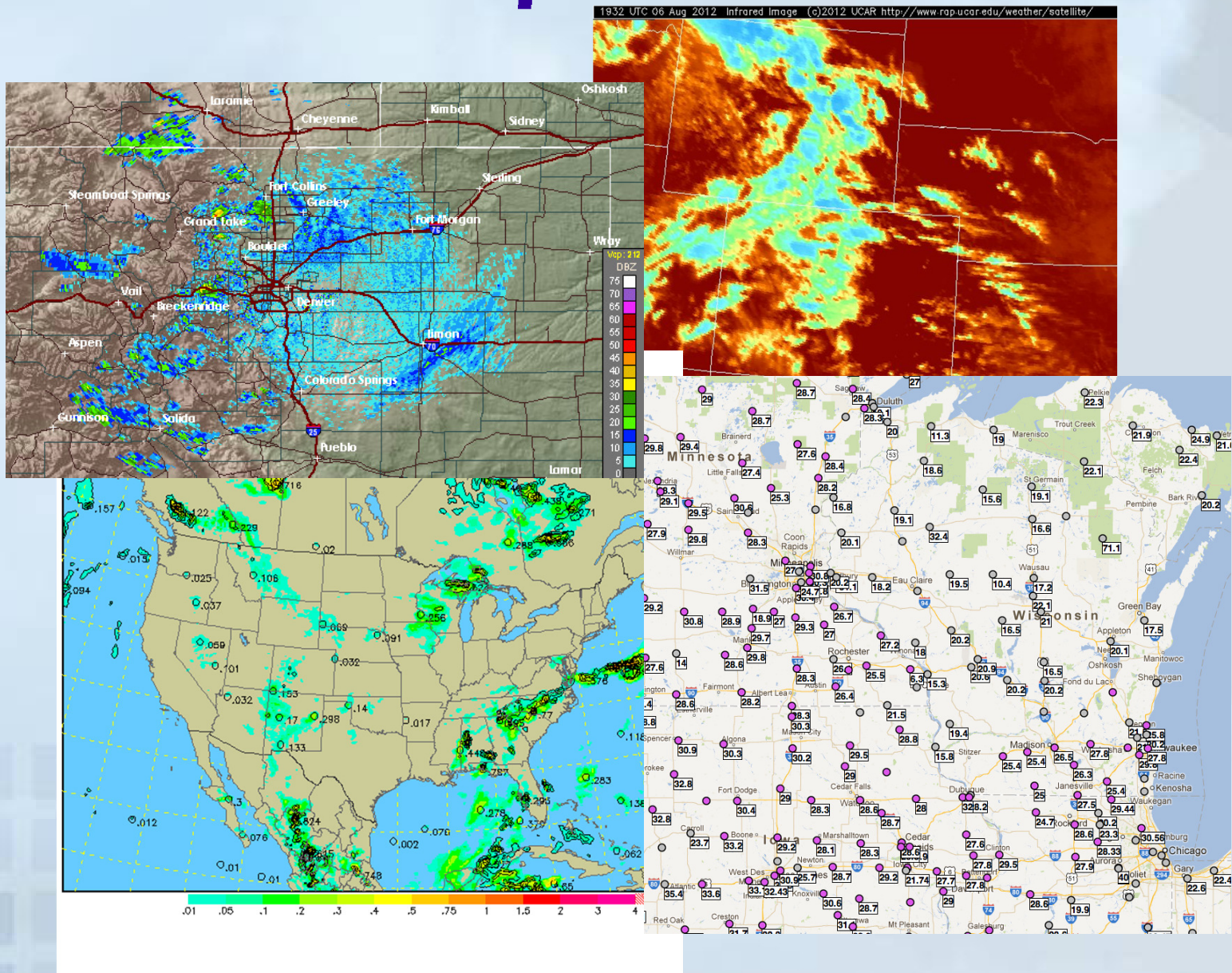
- **Probe data**

- External air temperature
- Atmospheric pressure
- Wiper status
- Headlight status
- Accelerometer
- Anti-lock braking status
- Traction control
- Stability control
- Rate of change of steering
- Vehicle velocity
- Brake status
- Brake boost

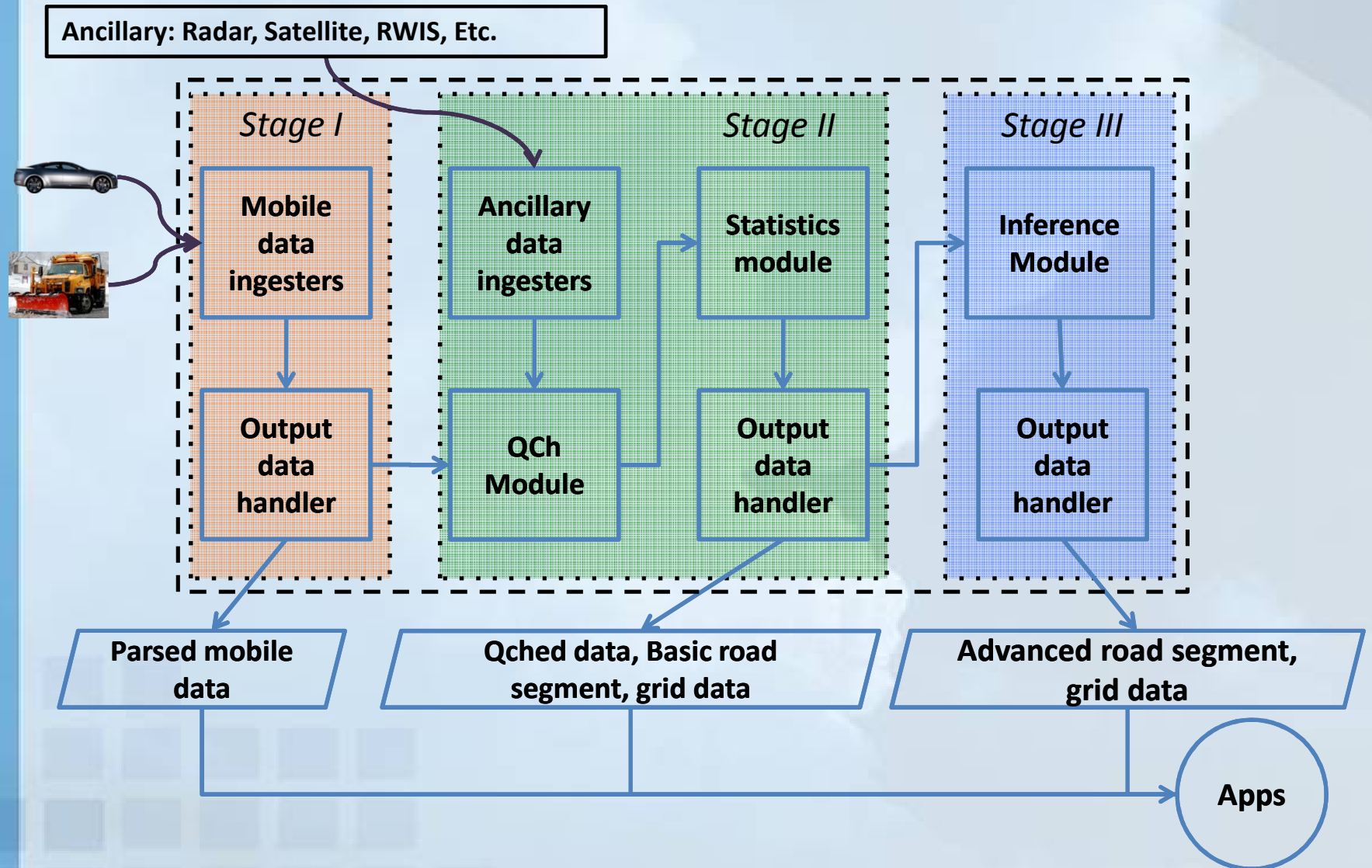
- **Probe data**

- Date
- Time
- Location
- Vehicle heading
- Rain (rain sensor)
- Relative humidity
- Pavement temperature
- RPM
- Engine torque
- Exhaust diagnostics

Additional sample data



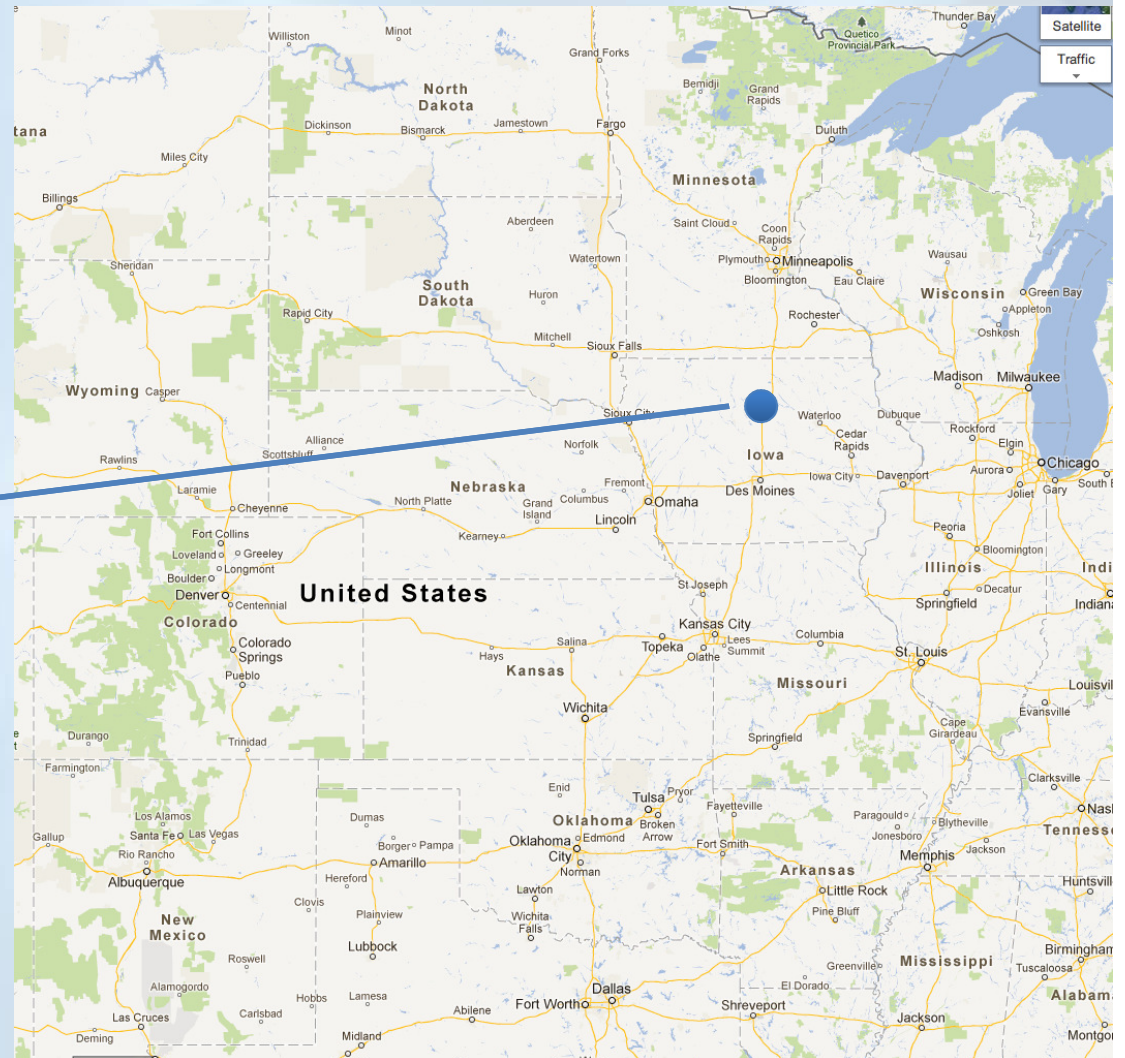
Schematic



Stage I

- Simple quality-control

42.5N, -93.5W
08:38.23



Stage II

- **Advanced quality control**
- **Clarus-like algorithms**
 - Anticipated Range Test
 - Persistence Test
 - Step Test
 - Spatial Tests (replaces Neighboring Station Test)
 - Climate Range Test
- **Additional QC**
 - Data Filtering Test
 - Model Analysis Test (Enhanced)
 - Neighboring Vehicle Test
 - Combined Algorithm Test

Stage II continued

- Statistical output

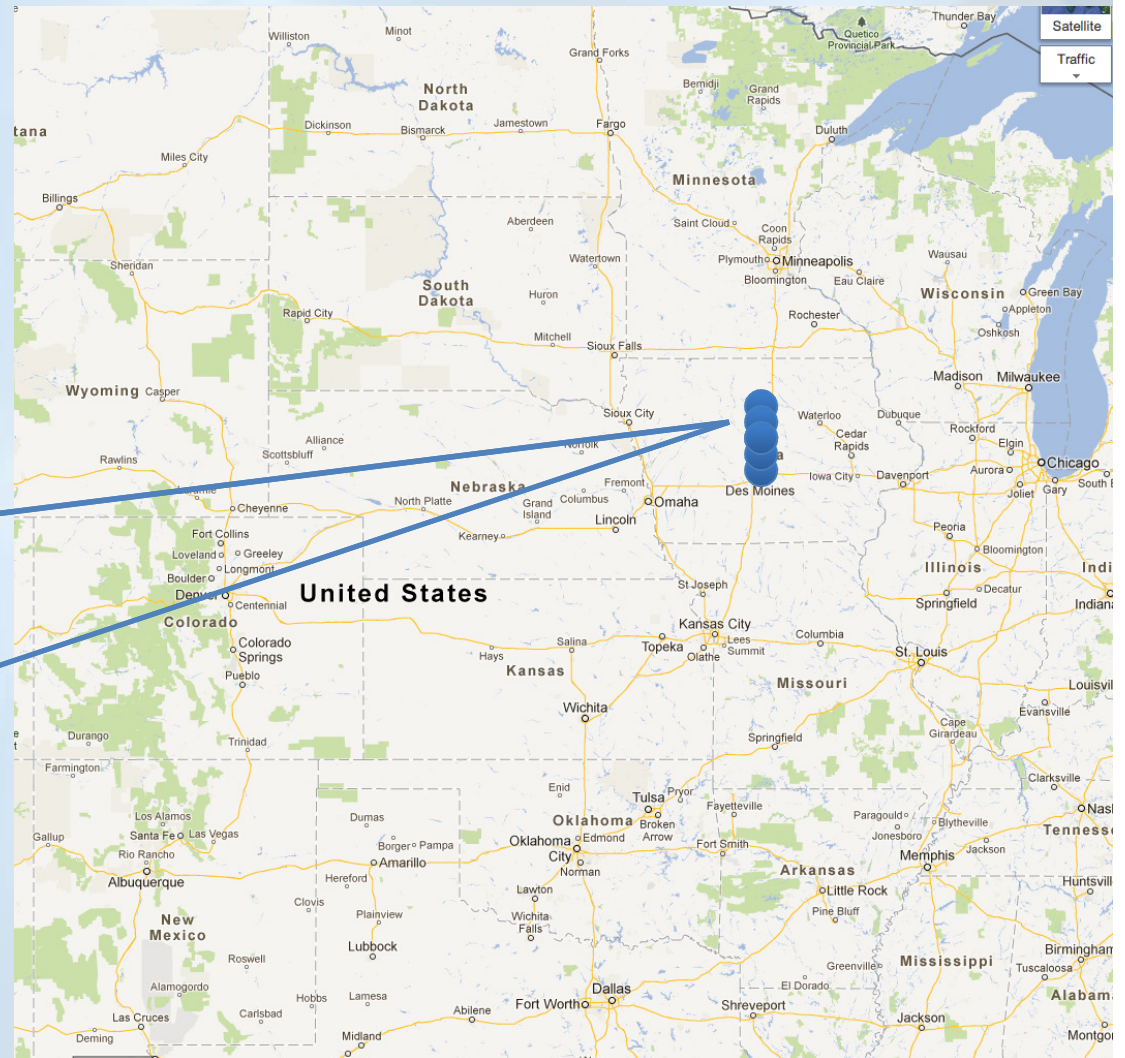
Mean temp = 56.8F

Wiper Status:

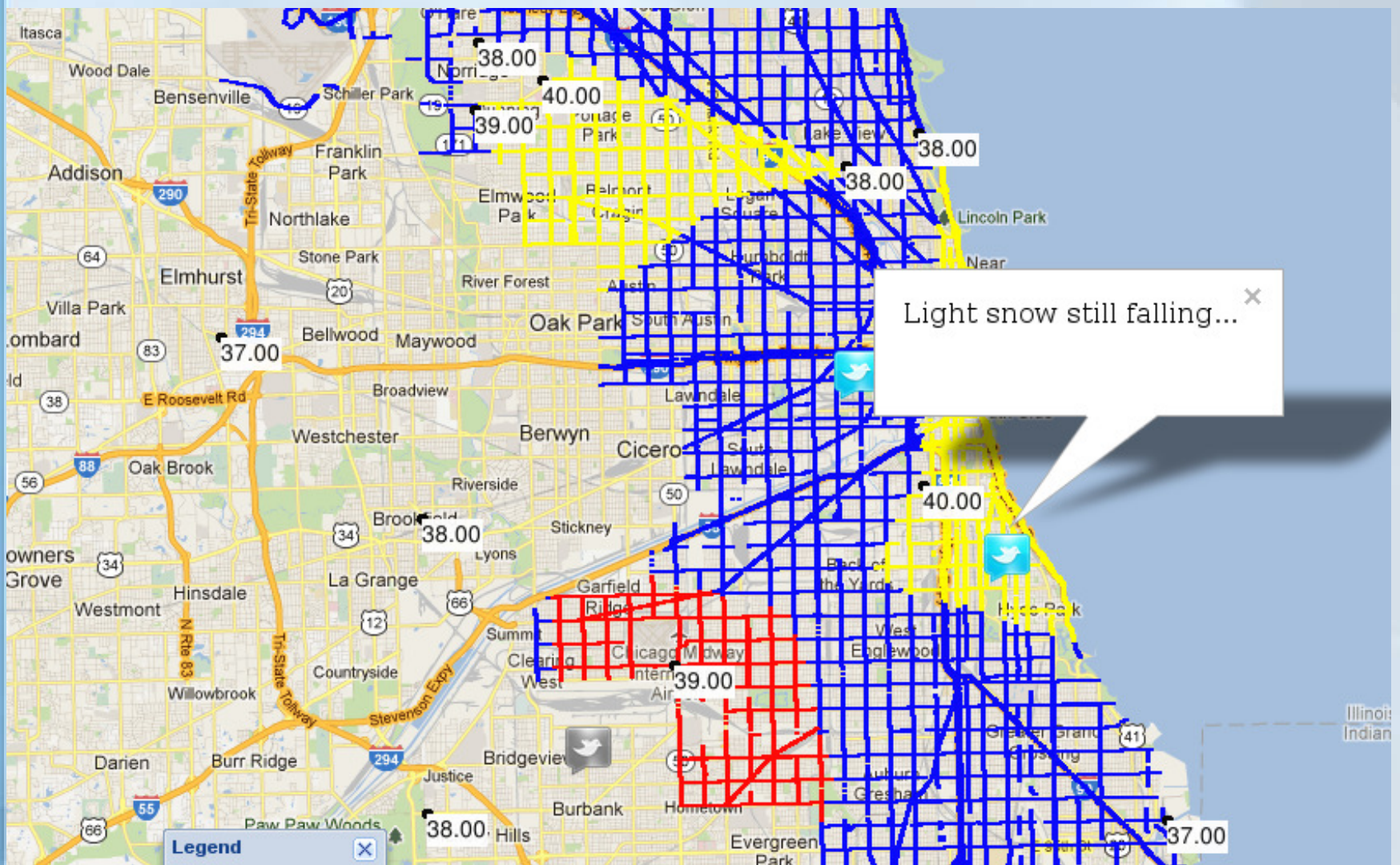
Off: 35%

Int: 50%

On: 15%



Stage III



Display

Applications Places System 27 °F Wed Jan 12, 9:21 PM blambi

WDT Display - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://yungas:8080/wdt/

National Center for ... Gmail: Email from ... 7-Day Forecast for ... Comcast TV Show L... RTD | Route Bound: ... CULink | University ...

[01] WDT Display

Datasets

NWS Watches and Warnings

NWS Watches and Warnings:

- ☐ Severe Weather
- ☐ Winter Weather
- ☐ Marine
- ☐ Domestic
- ☐ Environmental
- ☐ Flood
- ☐ Storm Warnings
- ☒ All Hazards
- ☐ Weather Stories
- ☐ Hide

Transparency: Transparent Opaque

Radar

Radar:

- ☒ Composite Reflectivity
- ☐ RSAS Temperature
- ☐ RSAS Dewpoint
- ☐ Cloud Mask
- ☐ None

Color Scale: -20 -10 0 10 25 35 45 55 65 70

Transparency: Transparent Opaque

Road Segment

Road Segment: ☐ Temperature

Map

Map Satellite Hybrid Terrain

Mon, 24 May 2010 17:45:08 +0000

Steady snow, slowing down now. Roads are slick, drive carefully!@!

Winnemucca

Imlay

Rochester

North Battle Mountain

Argenta Ranch

Battle Mountain

Beowawe

Crescent Valley

Palisade

Carlin

Midway

Tuscarora

Map data ©2011 Google

Winter Weather Advisory

Winter Weather Advisory issued May 29 at 3:30AM MDT expiring May 29 at 3:00PM MDT by NWS Missoula
<http://www.wrh.noaa.gov/Missoula/>
West Glacier Region
Effective: 20100529.0930
Expires: 20100529.2100
[NWS Alert](#)

Begin Date: 17:45 2010-05-24 1745 UTC

Time Position:

Current Position: 2010-05-24 1745 UTC

Play Stop

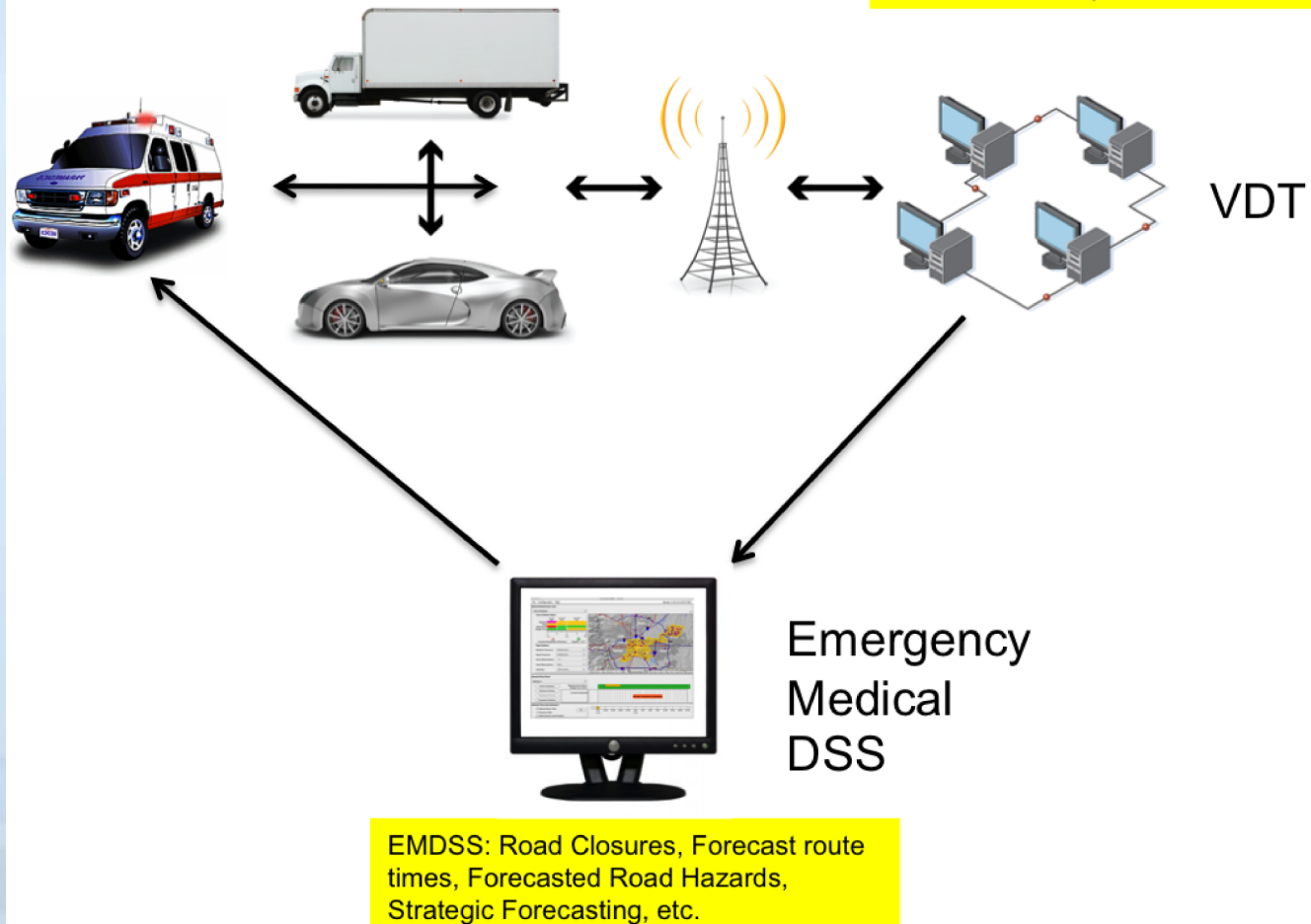
http://yungas:8080/wdt/#

Downloads - File Br... AQ_G24_HG_30_03... g24_developer_kit.b... Gmail: Email from G... blambi@static: ~ WDT Display - Mozil...

Emergency Management

Variables: speed, location, pavement temperature, air temperature, dewpoint temperature, friction, yaw/pitch/roll, ABS, Stability/Traction Control, Collision

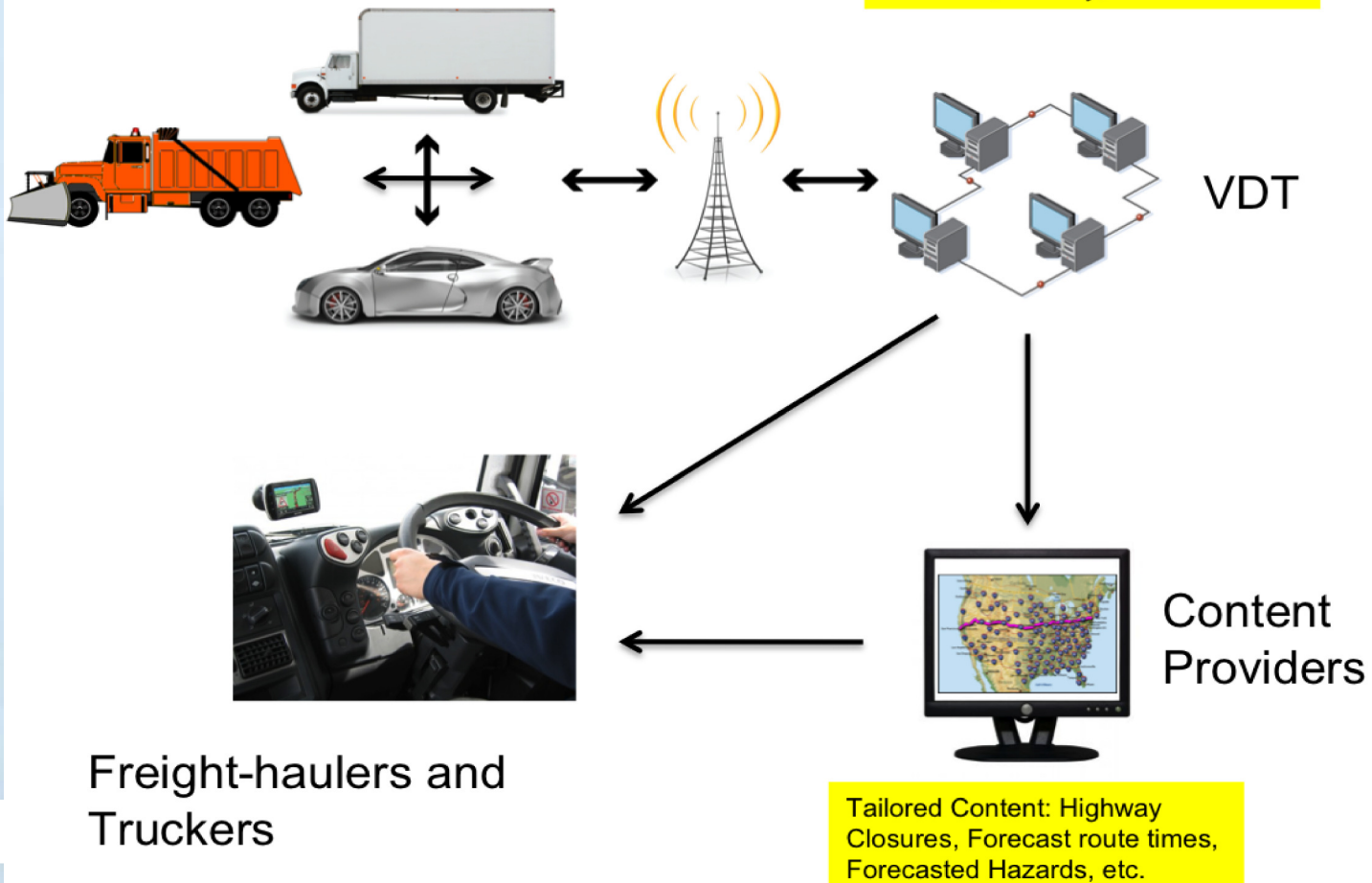
Variables: QC'd data from canbus and external, average temperature, average speed, precipitation type, slickness, visibility, etc.



Fleet Operations

Variables: speed, location, pavement temperature, air temperature, dewpoint temperature, friction, yaw/pitch/roll, ABS, Stability/Traction Control, Collision

Variables: QC'd data from canbus and external, average temperature, average speed, precipitation type, slickness, visibility, etc.





Thank-you

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